EDITED KSA LISTING

CLASS: Associate Programmer Analyst (Specialist)

NOTE: Each position within this classification may be required to possess all or some of these knowledge, skills or abilities.

#	Knowledge, Skill, Ability
	Knowledge of:
K1.	Advanced knowledge of computer programming principles in order to develop and maintain programs, applications, and systems; explain issues and solutions to users, learn new programming languages, and problem-solve.
K2.	**Intermediate knowledge of principles of network communication systems (e.g., internet, email, LAN, WAN) and equipment (e.g., servers, routers, printers, storage devices) in order to write interfaces, communicate with system administrators, build applications that will communicate with other devices, get input data for your program, create shared libraries, etc.**
K3.	Intermediate knowledge of principles and techniques of studying work processes for new or revised information technology systems applications in order to recommend changes to the workflow process, and plan a complex project by breaking down complicated processes into simpler steps for programming.
K4.	Intermediate knowledge of application/system designing methods in order to process information, create a new application or system based upon the workflow processes already in place, and/or enhance existing applications or systems.
K5.	Basic knowledge of technical writing (e.g., user documentation, technical guides, project management plans, help manuals, etc.) in order to communicate with users, management, co-workers, and team members, and to document the status of a project, how the application works, and historical purposes.
K6.	Basic knowledge of statistical methods in order to create reports, identify and conduct statistical analyses of problems (e.g., system usage, response times, user errors, etc.), analyze data for user requirements, etc.
K7.	**Advanced knowledge of fourth generation languages (e.g., PERL, C, C++, Shell Script, HTML, JAVA, JAVA script, SQL, Cold Fusion, Delphi, Visual Basic) in order to develop and support applications.**
K8.	**Intermediate knowledge of operating systems (e.g., Windows, MVS, UNIX) in order to develop and support applications and systems.**
K9.	**Intermediate knowledge of relational databases (e.g., Oracle, Access, SQLserver, Paradox) in order to develop and support applications and systems.**
K10.	**Advanced knowledge of third generation languages/databases (e.g., COBOL, ADABAS, NATURAL, SAS, Dbase, Foxpro, Clipper) in order to support legacy/older systems.**
K11.	**Intermediate knowledge of structured program design techniques in order to create programs and break them down into modules and tasks for completion, and for easier maintenance and support.**
K12.	**Intermediate knowledge of file management techniques (e.g., VSAM, relational databases, etc.) in order to create test data, organize and store existing data, create reports, convert data from one file management system to another, etc.**

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#	Knowledge, Skill, Ability
K13.	**Advanced knowledge of the systems development life cycle process (e.g., planning, requirements, design, build, test, implementation, maintenance) in order to create the project deliverables (e.g., FSR, systems requirements, project management plan, completed version of the program, PIER, etc.).**
K14.	**Basic knowledge of the procurement cycle in order to ensure that deadlines are met and products are delivered in a timely manner.**

	Skill to:
S1.	Skill to develop detailed program specifications in order to meet user needs, comply with legislative mandates and fulfill department objectives.
S2.	Skill to write complex programs in order to meet user needs, comply with legislative mandates and fulfill department objectives.
S3.	Skill to analyze information and situations in order to effectively understand the workflow process, write business rules, construct logical programs, and recommend solutions.
S4.	Skill to identify problems in order to draw valid conclusions, develop effective solutions, and create programs to meet users needs.
S5.	Skill to apply analytical thinking in the design and development of methods of processing information with information technology systems in order to create structured programs and systems, organize complex projects, and developing effective solutions to business problems.
S6.	Skill to establish and maintain cooperative working relationships with those contacted in the course of the work in order to improve communication with users, co-workers, management, and outside vendors; and facilitate team building.
S7.	Skill to communicate effectively with users, managers, team members and others in order to make presentations, confer with others about the status of projects, document business rules, parameters, test results, training materials, etc.
S8.	**Skill to design files and databases in order to share data between systems, logically organize data, maintain and access information, etc.**
S9.	**Skill to use file and database access methods in order to share data between systems, logically organize data, maintain and access information, etc.**
S10.	**Skill to design tests (e.g., create test data, scripts, plans, and summaries) in order to ensure the program's, application's, or system's compliance with business rules specified by the development team (e.g., programmers and users).**
S11.	**Skill to evaluate test results in order to determine if the program is working according to the business rules.**
S12.	**Skill to develop structured coding in order to ensure proper and efficient execution of the program.**

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#	Knowledge, Skill, Ability

	Ability to:
A1.	Ability to reason logically and creatively in order to create effective solutions to business problems.

	Special Personal Characteristics:
SPC1.	**Work independently in order to make decisions and recommend solutions to problems during the course of the work project.**
SPC2.	**Adapt to changing environments and new technologies in order to keep current with industry standards.**
SPC3.	**Willingness to share information, communicate with team members, follow instructions, accept feedback and changes from others, follow departmental policy, tact, etc. in order to work effectively with others.**

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